

[METHOD OF FABRICATING A NON-VOLATILE MEMORY DEVICE TO ELIMINATE CHARGE LOSS]

Abstract of Disclosure

A memory device is formed on a silicon substrate. A blocking layer is thereafter formed to cover a stacked gate of the memory device. A gettering layer is formed on the blocking layer followed by planarizing of the gettering layer to a predetermined thickness. A first barrier layer is then formed on the gettering layer. A contact hole is formed to penetrate through the first barrier layer, the gettering layer and the blocking layer down to the surface of the memory device. Following that, a second barrier layer is created to cover the first barrier layer and the contact hole. Finally, portions of the second barrier layer are etched back to make a barrier spacer on the side wall of the contact hole. Therein, the first barrier layer and the barrier spacer prevent mobile atoms from vertically diffusing and laterally diffusing, respectively, into the memory device.